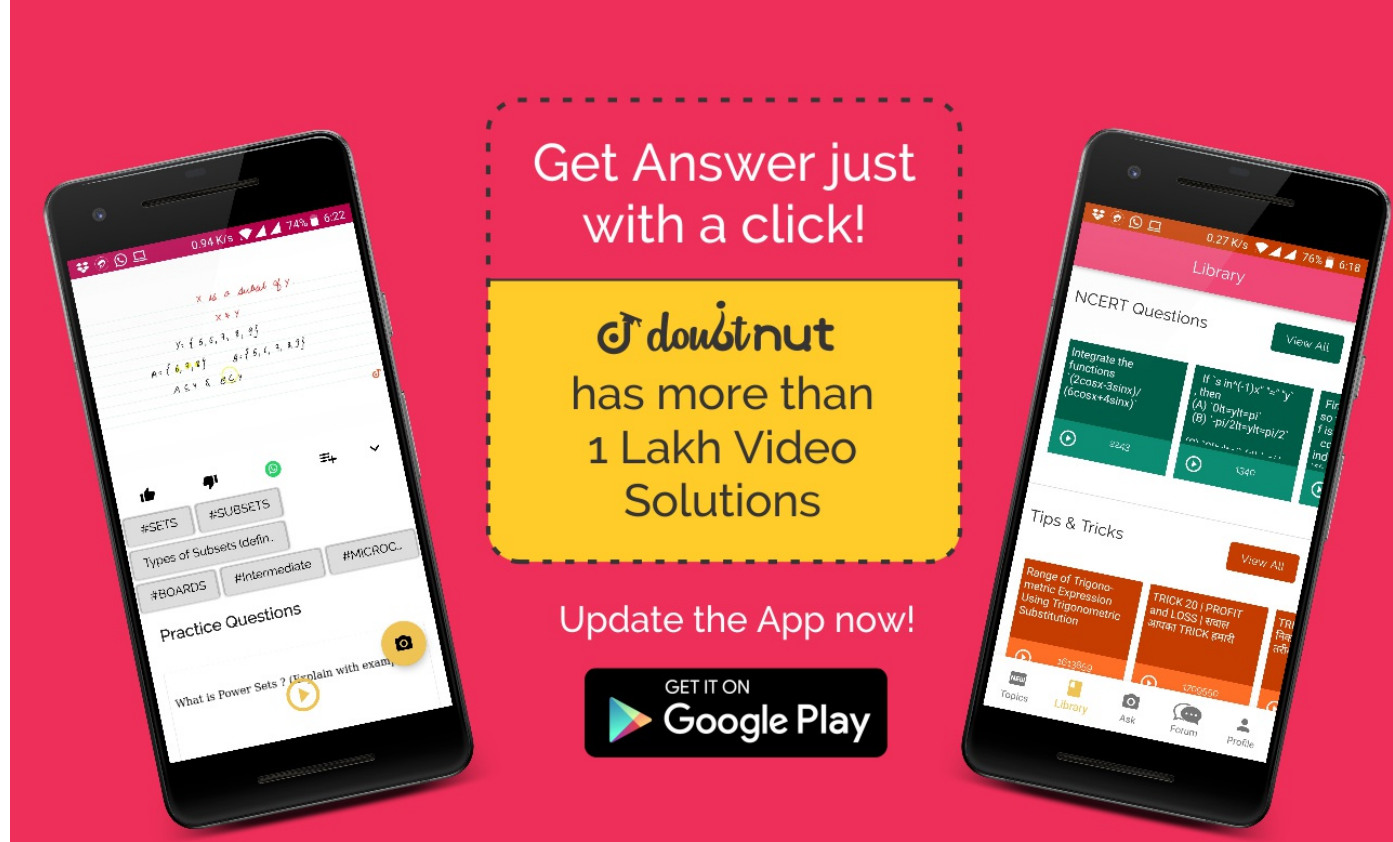


Ques No.	Question
1	<p>NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.1 - Q 1</p> <p>In quadrilateral ACBD, $AC = AD$ and AB bisects $\angle A$ (see Fig. 7.16). Show that $\triangle ABC \cong \triangle ABD$</p> <p>▶ Watch Free Video Solution on Doubtnut</p>
2	<p>NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.1 - Q 2</p> <p>ABCD is a quadrilateral in which $\angle DAB = \angle CBA$ (see Fig. 7.17). Prove that (i) $\triangle ABD \cong \triangle BAC$ (ii) $BD = AC$ (iii) $\angle ABD = \angle BAC$</p> <p>▶ Watch Free Video Solution on Doubtnut</p>
3	<p>NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.1 - Q 3</p> <p>AD and BC are equal perpendiculars to a line segment AB (see Fig. 7.18). Show that CD bisects AB.</p> <p>▶ Watch Free Video Solution on Doubtnut</p>
4	<p>NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.1 - Q 4</p> <p>l and m are two parallel lines intersected by another pair of parallel lines p and q (see Fig. 7.19). Show that $\triangle ABC \cong \triangle CDA$.</p> <p>▶ Watch Free Video Solution on Doubtnut</p>
5	<p>NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.1 - Q 5</p> <p>line l is the bisector of an angle $\angle A$ and B is any point on l. BP and BQ are perpendiculars from B to the arms of $\angle A$. Show that: (i) $\triangle APB \cong \triangle AQB$ (ii) BP = BQ or B is equidistant from the arms of $\angle A$</p> <p>▶ Watch Free Video Solution on Doubtnut</p>



6

NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.1 - Q 6

In Fig. 7.21, $AC = AE$, $AB = AD$ and $\angle BAD = \angle EAC$. Show that $BC = DE$.

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.1 - Q 7

AB is a line segment and P is its mid-point. D and E are points on the same side of AB such that $\angle BAD = \angle ABE$ and $\angle EPA = \angle DPB$ (see Fig. 7.22). Show that (i) $\triangle DAP \cong \triangle EBP$ (ii) $AD = BE$

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.1 - Q 8

In right triangle ABC, right angled at C, M is the mid-point of hypotenuse AB. C is joined to M and produced to a point D such that $DM = CM$. Point D is joined to point B (see Fig. 7.23). Show that: (i) $\triangle AMC \cong \triangle BMD$ (ii) $\angle BMD = \angle BMC$

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.2 - Q 1

In an isosceles triangle ABC, with $AB = AC$, the bisector of $\angle B$ and $\angle C$ intersect at O

Show that:
 (i) $OB = OC$
 (ii) AO bisects $\angle A$

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.2 - Q 2

10

In $\triangle ABC$, AD is the perpendicular bisector of BC (see Fig. 7.30). Show that $\triangle ABC$ is an isosceles triangle in which $AB = AC$.

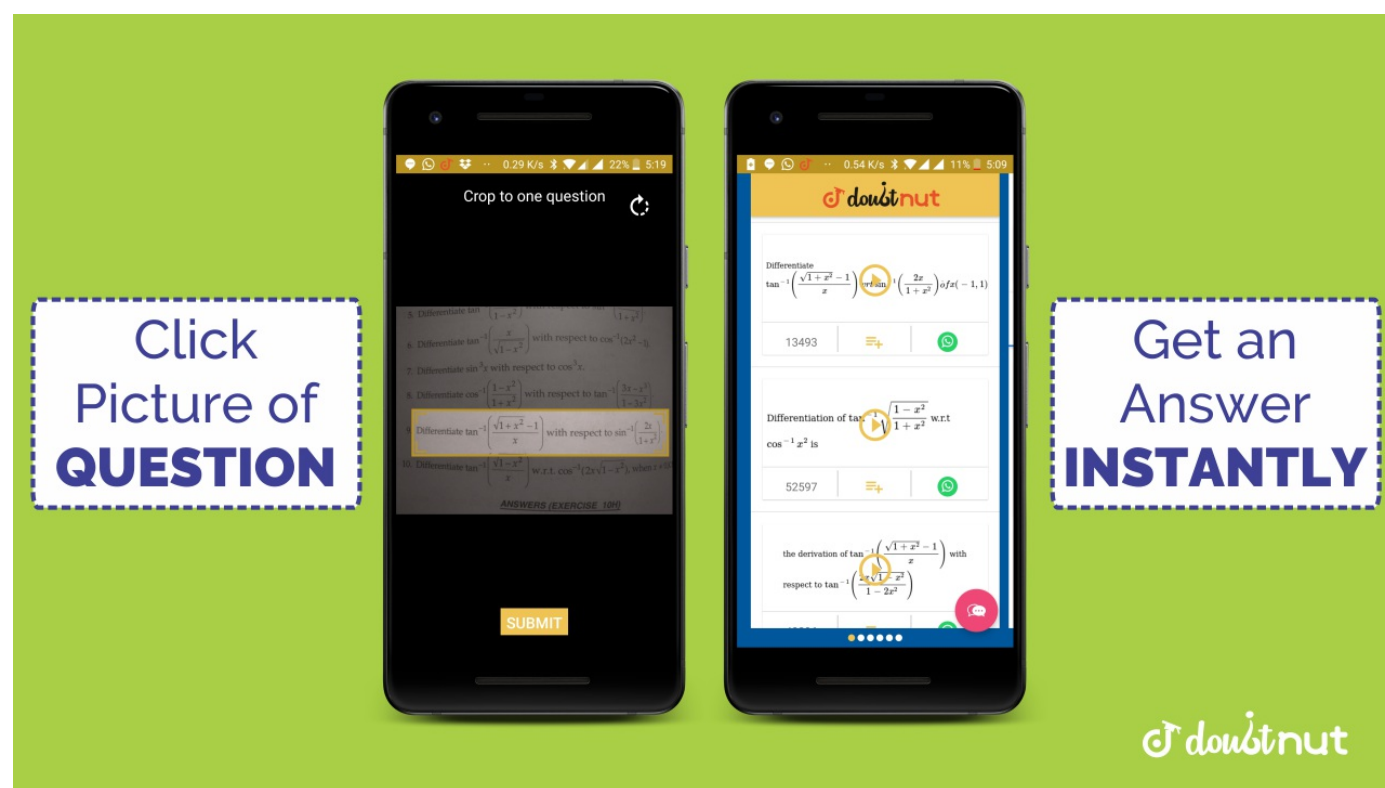
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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.2 - Q 3

11

ABC is an isosceles triangle in which altitudes BE and CF are drawn to equal sides AC and AB respectively (see Fig. 7.31). Show that these altitudes are equal.

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**NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.2 - Q 4**

12

ABC is a triangle in which altitudes BE and CF to sides AC and AB are equal (see Fig. 7.32). Show that (i) $\triangle ABE \cong \triangle ACF$ (ii) $AB = AC$, i.e., ABC is an isosceles triangle

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.2 - Q 5

13

ABC and DBC are two isosceles triangles on the same base BC (see Fig. 7.33). Show that $\angle ABD = \angle ACD$

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.2 - Q 6

14

DABC is an isosceles triangle in which $AB = AC$. Side BA is produced to D such that $AD = AB$ (see Fig. 7.34). Show that $\angle BCD$ is a right angle.

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.2 - Q 7

15

ABC is a right angled triangle in which $\angle A = 90^\circ$ and $AB = AC$. Find $\angle B$ and $\angle C$.

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.2 - Q 8

Show that the angles of an equilateral triangle are 60° each.

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.3 - Q 1

$\triangle ABC$ and $\triangle DBC$ are two isosceles triangles on the same base BC and vertices A and D are on the same side of BC (see Fig. 7.39). If AD is extended to intersect BC at P, show that (i) $\triangle ABD \cong \triangle ACD$ (ii) $\triangle ABP \cong \triangle ACP$

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.3 - Q 2

AD is an altitude of an isosceles triangle ABC in which $AB = AC$. Show that (i) AD bisects BC (ii) AD bisects $\angle A$.

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.3 - Q 3

Two sides AB and BC and median AM of one triangle ABC are respectively equal to sides PQ and QR and median PN of $\triangle PQR$ (see Fig. 7.40). Show that: (i) $\triangle ABM \cong \triangle PQN$ (ii) $\triangle ABC \cong \triangle PQR$

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.3 - Q 4

BE and CF are two equal altitudes of a triangle ABC. Using RHS congruence rule,

20

prove that the triangle ABC is isosceles

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.3 - Q 5

ABC is an isosceles triangle with $AB = AC$. Draw $AP \perp BC$ to show that $\angle B = \angle C$.

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.4 - Q 1

Show that in a right angled triangle, the hypotenuse is the longest side.

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.4 - Q 2

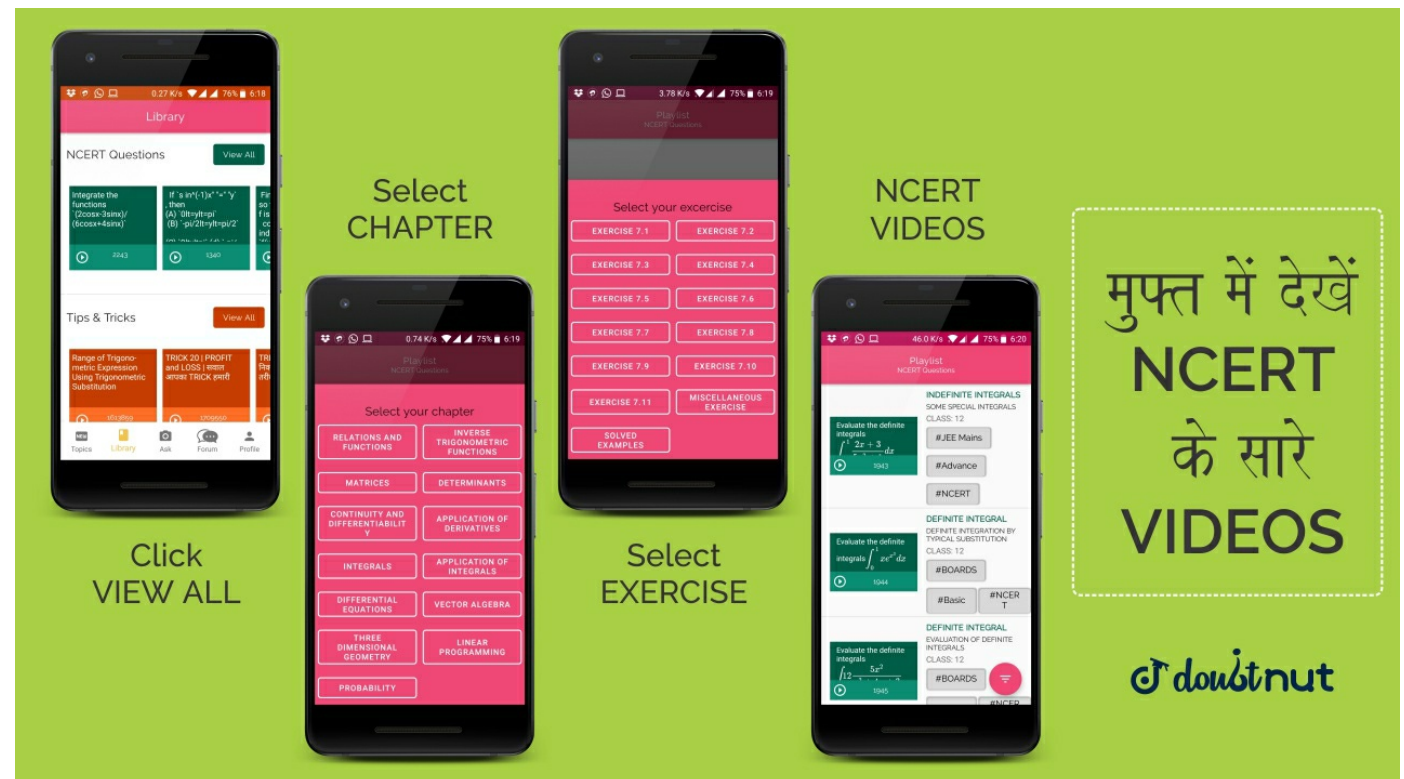
In Fig. 7.48, sides AB and AC of $\triangle ABC$ are extended to points P and Q respectively. Also,

$\angle PBC = \angle QCB$

. Show that $\angle ACB > \angle ABC$.

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.4 - Q 3

24

In Fig. 7.49, $\angle B$ [▶ Watch Free Video Solution on Doubtnut](#)

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.4 - Q 4

AB and CD are respectively the smallest and longest sides of a quadrilateral ABCD (see Fig. 7.50). Show that $\angle A > \angle C$ and $\angle B > \angle D$.

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.4 - Q 5

In Fig 7.51, $PR > PQ$ and PS bisects $\angle QPR$. Prove that $\angle PSR > \angle PSQ$.

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.4 - Q 6

Show that of all line segments drawn from a given point not on it, the perpendicular line segment is the shortest.

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.5 - Q 1

ABC is a triangle. Locate a point in the interior of $\triangle ABC$ which is equidistant from all the vertices of $\triangle ABC$

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.5 - Q 2

In a triangle locate a point in its interior which is equidistant from all the sides of the triangle

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Two sets A and B are as under: A = {(a,b) in R x R : a < 5, b < 5} and B = {(a,b) in R x R : 4(a-6)^2 + 3(b-5)^2 <= 12}

Let S = {x in R : x <= 0 and 2(sqrt(x)-3) <= sqrt(x)(sqrt(x)-3) <= 6+6=0} then S (1) is an empty set (2) ...

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The area of the region bounded by the curves y = sqrt(1+sinx/cosx) and y = sqrt(1-sinx/cosx) bounded by ...

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.5 - Q 3

In a huge park, people are concentrated at three points (see Fig. 7.52): A : where there are different slides and swings for children, B : near which a man-made lake is situated, C : which is near to a large parking and exit. Where should an icecream parlour be set up so that maximum number of persons can approach it? (Hint : The parlour should be equidistant from A, B and C)

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - EXERCISE 7.5 - Q 4

Complete the hexagonal and star shaped Rangolies [see Fig. 7.53 (i) and (ii)] by filling them with as many equilateral triangles of side 1 cm as you can. Count the number of triangles in each case. Which has more triangles?

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - SOLVED EXAMPLES - Q 1

In Fig. 7.8, $OA \perp OB$
 and $OD \perp OC$
 $\angle AOD = \angle BOC$
 . Show that (i)
 (ii) $\Delta AOD \cong \Delta BOC$ (iv)
 (v) and (ii)
 (vi) $AD \parallel BC$ (viii)
 (ix)

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - SOLVED EXAMPLES - Q 2

AB is a line segment and line l is its perpendicular bisector. If a point P lies on l, show that P is equidistant from A and B.

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - SOLVED EXAMPLES - Q 3

Line-segment AB is parallel to another line-segment CD. O is the mid-point of AD (see Fig. 7.15). Show that (i) $\triangle AOB \cong \triangle DOC$ (ii) O is also the mid-point of BC

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - SOLVED EXAMPLES - Q 4

In $\triangle ABC$, the bisector AD of A is perpendicular to side BC (see Fig. 7.27). Show that $AB = AC$ and $\triangle ABC$ is isosceles

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - SOLVED EXAMPLES - Q 5

E and F are respectively the mid-points of equal sides AB and AC of $\triangle ABC$ (see Fig. 7.28). Show that $BF = CE$.

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - SOLVED EXAMPLES - Q 6

In an isosceles triangle ABC with $AB = AC$, D and E are points on BC such that $BE = CD$ (see Fig. 7.29). Show that $AD = AE$

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - SOLVED EXAMPLES - Q 7

AB is a line-segment. P and Q are points on opposite sides of AB such that each of them is equidistant from the points A and B (see Fig. 7.37). Show that the line PQ is the perpendicular bisector of AB

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - SOLVED EXAMPLES - Q 8

P is a point equidistant from two lines l and m intersecting at point A (see Fig. 7.38). Show that the line AP bisects the angle between them.

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NCERT - CLASS 9 - CHAPTER 7 TRIANGLES - SOLVED EXAMPLES - Q 9

D is a point on side BC of $\triangle ABC$ such that $AD \perp BC$ (see Fig. 7.47). Show that $AB > AD$.

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